major sources of ground water contamination include waste disposal facilities, underground fuel and chemical storage tanks, accidental spills, and pesticide and road salt storage and application. Additional ground water quality problems have developed historically in areas where the stratified drift aquifers are adjacent to salt water bodies; excessive pumping and coastal flooding have caused salt contamination of some of these aquifers.

Ground Water Management and Protection

Connecticut has been a national pacesetter in statewide programs for ground water protection. It was one of the first states to adopt and implement a comprehensive ground water classification system intergrated with water quality standards, land use policies, and discharge permits. The backbone of the Connecticut system is a four-class ground water classification system. The entire state has been mapped and classified according to these four classes of ground water. The most protected class applies to water utility and municipal drinking water supplies. The next two classes apply to private drinking water supplies and water supplies that may not be suitable for potable use unless treated because of existing or past impacts on the water quality. The final class designates areas in which certain treated industrial waste water and major residential waste disposal practices are allowed and there are no future plans to use the ground water as a source of drinking water.

The Connecticut ground water protection system recognizes the intimate connection of surface waters and ground waters and manages them in a systems approach. Although the Connecticut system is not without problems and controversy, it appears to be an effective system for managing and controlling activities that have an impact on ground water quality. For instance, it has been used on occasion to close landfills and prevent location and siting of other activities, industries, or operations that could potentially have an impact on ground water quality. One important aspect of the program is an active effort to work closely with industries and local governments to plan and implement strategies for location and permitting of certain activities that might have an adverse impact on ground water. It is administered by the Connecticut Department of Environmental Protection (DEP).

The Connecticut system was adopted in 1980 and was implemented successfully, partly because an extensive data base existed on the hydrogeologic conditions of the state, which has been developed through the state's cooperative program with USGS. Over a period of several years, the Connecticut DEP has collected information on all surface watersheds, the properties and distribution of aquifers, depth of water tables, water quality of sensitive lands and water courses, locations of all existing public water supply wells,